



Second Set of Country Cards 2020:  
Detailed Appendix



Global  
Observatory for  
Physical Activity  
**GoPA**



## DEMOGRAPHIC Indicators

Capital .....

Population .....

Urban Population .....

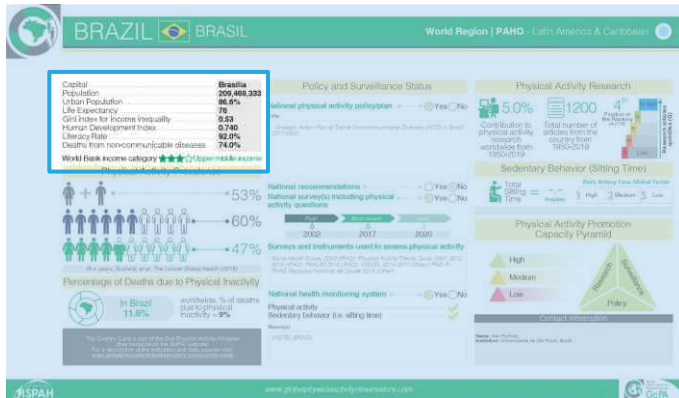
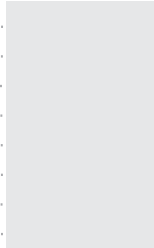
Life Expectancy .....

Gini index for income inequality .....

Human Development Index .....

Literacy Rate .....

Deaths from non-communicable diseases .....



## 1. Country name, region and income classification

We used the World Bank list of 215 countries, with the exceptions that we divided the United Kingdom into England, Scotland, Wales and Northern Ireland. Also, we combined information from China and Taiwan as the Greater China Area, and merged Palestine and West Bank and Gaza as requested by the contact persons from these countries. Our list therefore had 217 countries. For further analyses, countries were grouped by region, following the World Health Organization regional classification (EURO - Europe; AFRO - Africa; PAHO - The Americas and the Caribbean; EMRO - Eastern Mediterranean; WPRO - Western Pacific; SEARO - South-East Asia) and country income level following the World Bank classification (HICs - high income, UMICs - upper middle income; LMICs - lower middle income; and LICs - low income).

## 2. Capital

World Bank, Geography country data  
<https://geographyfieldwork.com/WorldCapitalCities.htm>

## 3. Total population

World Bank, our world in data and national statistics sources in the case of England, Northern Ireland, Scotland and Wales.  
<http://data.worldbank.org/indicator/SP.POP.TOTL/countries/CO?display=default>  
<https://ourworldindata.org/>



#### 4. Urban Population

World Bank, our world in data and country data; CIA's World Factbook  
<http://data.worldbank.org/indicator/SP.POP.TOTL/countries/CO?display=default>  
<https://ourworldindata.org/>

#### 5. Life expectancy

World Bank, our world in data and country specific data  
<http://data.worldbank.org/indicator/SP.POP.TOTL/countries/CO?display=default>  
<https://ourworldindata.org/>

#### 6. GINI inequality index

World Bank, our world in data, country specific data and the CIA's World Factbook  
<http://data.worldbank.org/indicator/SI.POV.GINI?page=1>  
<https://ourworldindata.org/>

#### 7. Human development index

International Human Development Indicators, United Nations  
<http://hdr.undp.org/en/countries>  
<https://ourworldindata.org/>

#### 8. Literacy rate

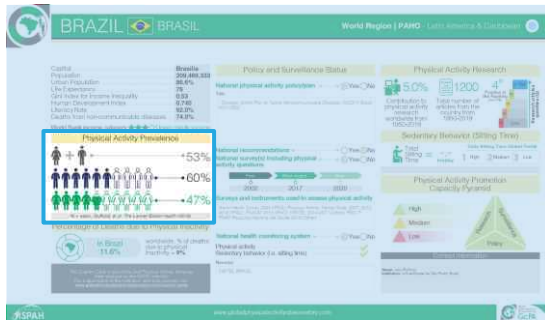
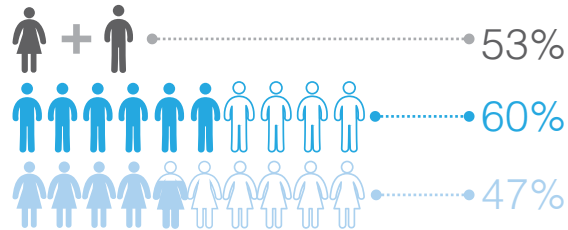
World Bank, our world in data, country specific data, the CIA's World Factbook and WHO Global Health Observatory Data  
<http://data.worldbank.org/indicator/SP.POP.TOTL/countries/CO?display=default>  
[https://www.cia.gov/Library/publications/the-world-factbook/fields/print\\_2103.html](https://www.cia.gov/Library/publications/the-world-factbook/fields/print_2103.html)  
<https://ourworldindata.org/>

#### 9. Deaths due to non-communicable diseases

World Bank  
Non-communicable diseases including cancer, diabetes mellitus, cardiovascular diseases, digestive diseases, skin diseases, musculoskeletal diseases, and congenital anomalies.  
<http://data.worldbank.org/indicator/SH.DTH.NCOM.ZS>  
<https://ourworldindata.org/>  
<http://apps.who.int/gho/data/?theme=main> AND  
<http://apps.who.int/gho/data/node.main.A860?lang=en>



## PHYSICAL ACTIVITY PREVALENCE



## 10. Physical activity prevalence estimates for adults

Unless otherwise stated, the physical activity prevalence estimate was based on the prevalence of insufficient physical activity age standardized to the WHO Standard Population 2016 and estimated in the paper by Guthold R, Stevens GA, Riley LM, Bull FC. Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants. *Lancet Global Health* 2018; [http://dx.doi.org/10.1016/S2214-109X\(18\)30357-7](http://dx.doi.org/10.1016/S2214-109X(18)30357-7).

**In GoPA! we presented physical activity prevalence instead of insufficient physical activity.** Therefore, the estimate was calculated as = 100 - prevalence of insufficient physical activity age-standardized.

In GoPA! we focus on prioritizing and ensuring comparability of data between GoPA! network countries. However, if the Country Contact strongly suggested to include other data source for the physical activity prevalence estimate, the following requirements had to be met:

### a. Physical activity definition

Meeting the physical activity recommendation defined as: at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity.

### b. Physical activity instruments

Based on self-reported physical activity assessed using the Global Physical Activity Questionnaire (GPAQ), the International Physical Activity Questionnaire (IPAQ) or a similar questionnaire covering activity at work/in the household, in transport, and during leisure time.

### c. National or subnational representativeness

The prevalence of physical activity has been estimated with a national or subnational sample.



## DEATHS RELATED TO PHYSICAL INACTIVITY



In (country)  
--%

worldwide, % of deaths due to physical inactivity = **9%**



### 11. Deaths related to physical inactivity

Deaths related to physical inactivity were estimated using the semi-adjusted population attributable factor-PAF (partial population attributable risk), described by [Wong, Benedict HW, Sarah B. Peskoe, and Donna Spiegelman](#). "The effect of risk factor misclassification on the partial population attributable risk." *Statistics in medicine* 37.8 (2018): 1259-1275.

$$par_{semi} = 1 - \frac{1}{(1 - p_1) + p_1 \cdot rr_1^{(a)}}$$

*Partial population attributable risk equation*

In the partial population attributable risk equation:

**rr= 1.28** and corresponds to the adjusted relative risk of all-cause mortality due to physical inactivity, estimated in the paper by [Lee IM, Shiroma EJ, Lobelo F, et al](#). *Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy*. *Lancet* 2012; 380: 219-29.

**p1=** the prevalence of insufficient physical activity age-standardized to the WHO Standard Population 2016 in the country, estimated in the paper by [Guthold R, Stevens GA, Riley LM, Bull FC](#). *Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants*. *Lancet Global Health* 2018, or in more recent WHO STEPS or national surveys recommended by the country contacts.



## PHYSICAL ACTIVITY SURVEILLANCE

### 12. National survey including physical activity questions

An internet search was conducted to determine whether each of the 217 world countries had a national survey including physical activity questions or a physical activity surveillance system.

Information was also collected from the supplement of the article [prevalence of insufficient physical activity age-standardized to the WHO Standard Population 2016 and estimated in Guthold R, Stevens GA, Riley LM, Bull FC. Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants. Lancet Global Health 2018.](#)

- 12.1 National survey including physical activity first year
- 12.2 National survey including physical activity most recent year
- 12.3 National survey including physical activity next year
- 12.4 National monitoring system including physical activity and/or sedentary behavior



## PHYSICAL ACTIVITY POLICY



### STEP 1

#### 13. Physical activity plan/policy and year

An internet search was conducted to determine whether each of the 217 world countries had a physical activity plan. We searched the WHO MiNDbank database of resources covering mental health, substance abuse, disability, general health, human rights and development, (<http://www.mindbank.info/collection/country>, <http://www.who.int/nmh/countries> and <http://hiip.wpro.who.int/portal/Dashboards/Noncommunicablediseases/NCDdashboards/TabId/210/ArtMID/1088/ArticleID/202/Default>), Google and PubMed from April to August 2019. The search was conducted including the terms “physical activity”, “national policy”, “national plan”, and the country name as search words.

All data and files that were found are included as attachments.

### STEP 2

#### 14. Policy inventory

GoPA! and a team of physical activity policy researchers developed a policy inventory, to include more detailed information about physical activity policy in the Country Cards.

Link to the questionnaire:

[https://vuau.qualtrics.com/jfe/form/SV\\_8wu7si78YfaexBb](https://vuau.qualtrics.com/jfe/form/SV_8wu7si78YfaexBb)

**The development of the GoPA! Policy Inventory version 3.0 and the policy inventory implementation are described in:**

Reference:

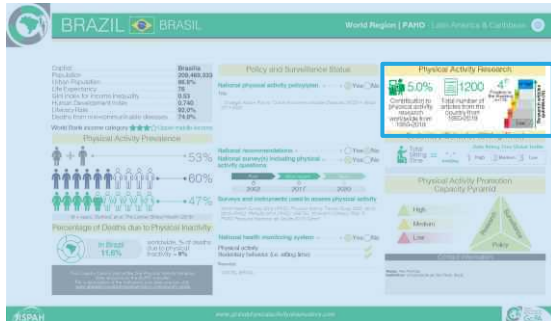
Klepac Pogrmilovic, B., Ramirez Varela, A., Pratt, M. et al. National physical activity and sedentary behaviour policies in 76 countries: availability, comprehensiveness, implementation, and effectiveness. *Int J Behav Nutr Phys Act* 17, 116 (2020). <https://doi.org/10.1186/s12966-020-01022-6>



## PHYSICAL ACTIVITY RESEARCH

To estimate the quantity of physical activity-related research conducted using country-specific data and to determine the characteristics of these publications, a systematic review was conducted. The methods have been previously used as part of the GoPA! standardized methodology followed to collect data for the first set of physical activity profiles called the “Country Cards”.

This systematic review followed PRISMA guidelines and was registered with the number CRD42017070153 at the PROSPERO website ([register@york.ac.uk](mailto:register@york.ac.uk)).



### Indicators

#### 15. Total number of articles per country from 1950 to 2019



5.0%

Each country had a list of total publications that resulted from the final selection of articles for the systematic review.

#### 16. Contribution to physical activity and health research worldwide from 1950-2016



1200

The country's contribution to worldwide physical activity and health research from 1950 to 2016 was estimated as the percentage of publications per country (total articles per country / total of articles worldwide)\*100.

#### 17. Physical activity research quintiles



Research articles quintiles were calculated to display a comparison between countries on the country cards. The quintiles were labelled 1- high; 2-upper-middle; 3-middle; 4-lower-middle; and, 5-low.

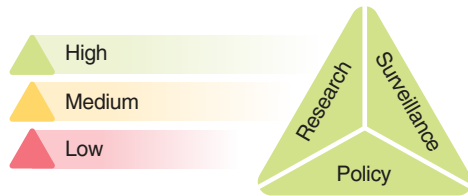
The development of the GoPA! research indicators are described in:

Ramírez Varela, A., Cruz, G.I.N., Hallal, P. et al. Global, regional, and national trends and patterns in physical activity research since 1950: a systematic review. *Int J Behav Nutr Phys Act* 18, 5 (2021). <http://sci-hub.tw/10.1186/s12966-020-01071-x>





## COUNTRY CAPACITY FOR PHYSICAL ACTIVITY PROMOTION



The policy, surveillance and research triangles of the pyramid would be all green if:

- The country has a standalone plan/policy for physical activity
- The country has periodic physical activity surveillance (data for first, most recent and next surveys)
- Research is in the Q1 and Q2 quintiles of productivity (based on the systematic review)

The policy, surveillance and research triangles of the pyramid would be yellow if:

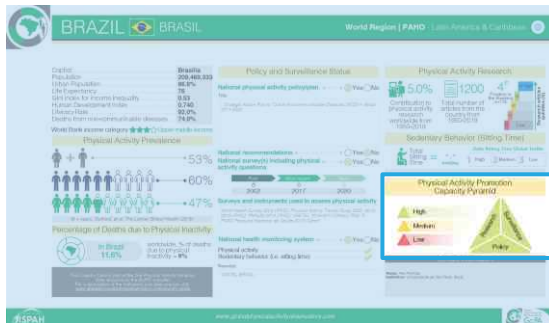
- The country has a NCDs plan that includes physical activity
- The country has physical activity surveillance but not with a clear periodicity (data for first OR most recent OR next surveys)
- Research is in the Q3 or Q4 quintiles of productivity (based on the systematic review)

The policy, surveillance and research triangles of the pyramid would be red if:

- The country does not have a physical activity plan/policy
- The country does not have physical activity surveillance
- The country is in the Q5 quintile of productivity or does not have physical activity research (based on the systematic review)

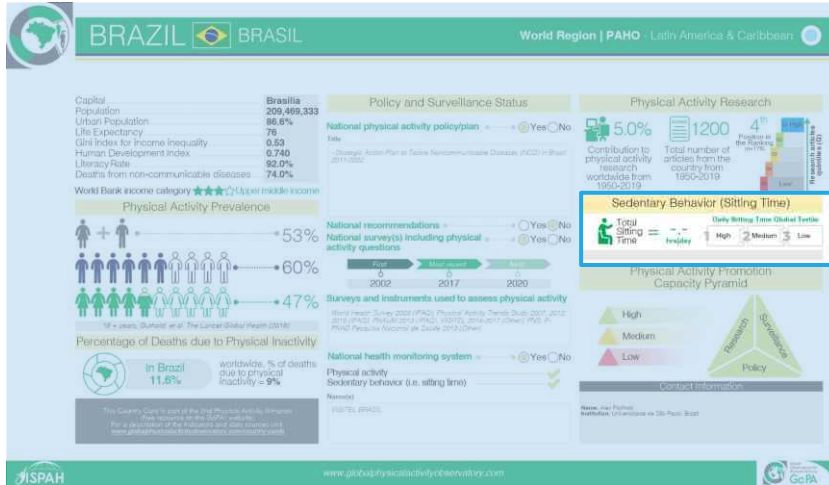
The development of the GoPA! country capacity for physical activity promotion indicator is described in:

Varela, Andrea Ramirez, et al. "Worldwide use of the first set of physical activity Country Cards: The Global Observatory for Physical Activity-GoPA!." international journal of behavioral nutrition and physical activity 15.1 (2018): 29.





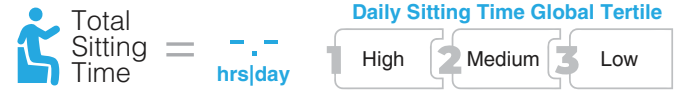
## SEDENTARY BEHAVIOR



### Description of the indicator

This metric reflects the total daily duration of sitting accumulated across all domains, including occupation, leisure, domestic and travel. Data were obtained from self-report questionnaires and published in the last 10 years. Data obtained through device-based measurement of sitting time were excluded, to improve comparability between countries. A multistage literature and grey literature search was conducted.

## 18. Total sitting time

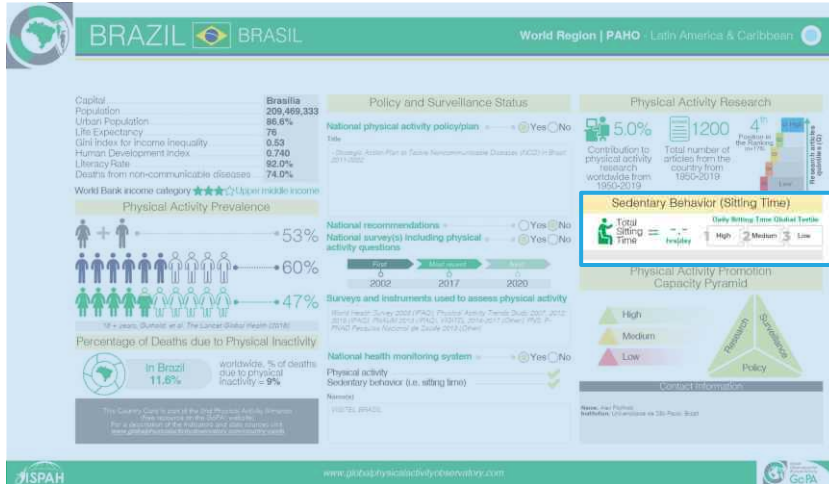


### The development of the GoPA! sitting time indicator is described in:

Mclaughlin, M; Atkin, AJ; Starr, L ; Hall, A; Wolfenden, L; Sutherland, R; Wiggers, J; Ramirez, A; Hallal, P; Pratt, M; Lynch, BM ; Wijndaele, K ; on behalf of the Sedentary Behaviour Council Global Monitoring Initiative Working Group. Worldwide surveillance of sitting time: a scoping review. <http://sci-hub.tw/10.1186/s12966-020-01008-4>



## SEDENTARY BEHAVIOR

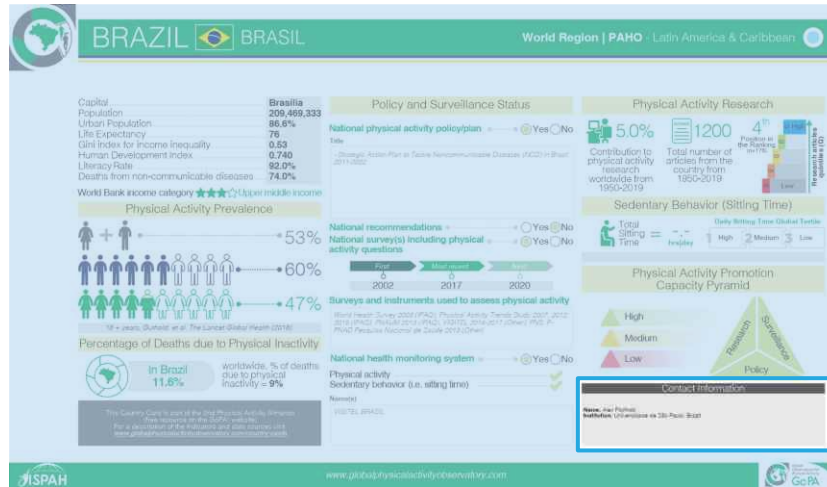


### 18.1 Sitting time tertiles

Sitting time tertiles were calculated to display a sitting time comparison between countries on the country cards. The tertiles were labelled low, medium and high sitting time (with low sitting time being preferable). Depending on the country, sitting time may have been derived from a multi-item questionnaire, rather than a single-item questionnaire (e.g. IPAQ, GPAQ). Therefore, this global indicator was created using the best and most recent data available.



## THE COUNTRY CONTACT INFORMATION (NAME AND INSTITUTION) CAN BE FOUND HERE





Thank You!

